

Transition to digital TV

Switching the terrestrial television platform from analogue to digital technology is no easy feat. Frequency channels for new digital services must be allocated, safeguards taken to protect existing services from interference, equipment in transmission towers changed, new services launched and viewers continually kept well-informed of the impending changes.

For most countries, this is one of the most important broadcast engineering projects since the launch of television services. Digital switchover is bringing many benefits to the broadcast community, general public, and latterly government regulators, hence unsurprising the process is underway in many countries.

Benefits for all

By converting from analogue to digital technology, countries can benefit from the increased spectrum efficiency since less bandwidth capacity is necessary to provide the same television services using digital technology compared with analogue technology. This more efficient use of spectrum means that some spectrum bandwidth is ultimately freed up, the so-called digital dividend, and is available for new services.

Such services can include new or improved broadcast services, such as HDTV, converged television and phone services, mobile datacasting services and wireless broadband services.

However, it is not until all countries in a given area have completed analogue switch-off that the true benefits of digital switchover can be realised. This has been recognised by the European Commission which has therefore encouraged its members to complete switch-off by 2012, an accelerated timescale compared with international radio regulations.

Strategies for switching off analogue services

In Europe, a number of countries have completed analogue switch-off. In 2006, the Netherlands and Luxembourg became the first countries to do so, followed by Sweden, Andorra and Finland in 2007. Switzerland completed analogue switch-off in February 2008 while Germany expects to do so by the end of the year.

In Sweden, analogue switch-off took place region-by-region based on a timetable set by the government which detailed when analogue transmitters would be shut off throughout the country. This approach has also been adopted in Switzerland, Germany and the United Kingdom.

Other countries have opted for a national approach to analogue switch-off. On a single day, analogue services are ended simultaneously across a whole country. Such an approach allows all viewers to benefit together from the advantages of digital switchover, as viewers are treated equally and given the same access to services. This approach has been successfully adopted in Finland, the Netherlands and Andorra.

The speed of analogue switch-off

The speed at which a country can end its analogue transmissions will depend on such factors as the number of households relying on the terrestrial platform, and the penetration and population coverage of digital terrestrial services.

Countries where the majority of households receive television by other means than the terrestrial television platform will be able to switch-off their analogue platform quickly and with little risk of causing viewers to lose television services. This has been demonstrated in highly cabled countries, such the Netherlands and Switzerland, which completed digital switchover quickly.

In countries where terrestrial reception is the most prevalent, the digital build up during the long simulcast period is essential. As increasing numbers of terrestrially-dependent households convert from analogue to digital television services, it becomes feasible to switch-off the analogue platform. Yet the take up of digital terrestrial services is directly linked to the availability of services (coverage), the appeal of the service offering (content) and the cost of the service (price of receiver).

In an open market, viewers ultimately will determine the speed of digital terrestrial penetration. Yet it will be important to ensure that all viewers are adequately prepared and that significant numbers do not lose access to television programmes. Governments will not want to risk disenfranchising viewers and will want to ensure that proper safeguards are taken. But doing so will require careful planning and the involvement of the entire broadcast industry.

Ultimately, a successful digital transition will require commitment to the process by government and the broadcast industry, with well-informed viewers fully prepared for the digital age.